

## CONTENTS TO VOLUME 12

### COMPUTATIONAL PHYSICS

#### *Issue Page*

1 v List of editors.

1 ix Instructions to authors.

1 1 On the H-stability property and energy of Wigner lattices in the one component classical plasma: a numerical analysis. R. Calinon, D. Merlini and R.R. Sari

1 9 Monte Carlo computations of the order-disorder transition temperature on the lattice model of the binary bcc system. J. Moscinski and Z. Rycerz

1 11 Evaluation of molecular integrals involving continuum orbitals. C. Bottcher, A.L. Ford and K.K. Docken

1 73 Book review. F.J. Smith

2 75 Pattern recognition in molecular dynamics. W.H. Zurek and W.C. Schieve

2 81 Numerical solution of a drift-diffusion problem with special boundary conditions by integral equations. G. De Mey

2 89 Energy diagrams based on complete ligand field calculations for arbitrary point groups in strong-field coupling. E. Konig and S. Kremer

2 147 Book review. L.M. Delves

3 149 Some examples of inelastic soliton interaction. I.L. Bogolubsky

3 157 Modelling displacement correlations in computer simulations of particle-solid collisions. D.P. Jackson and J.H. Barrett

4 233 The solution of elliptic partial differential equations using number theoretic transforms with application to narrow or limited computer hardware. J.W. Eastwood and C.R. Jesshope

4 241 Combinatorial computation of atomic terms for equivalent electrons. A.K. Bose and A. Bose

4 247 The group-coordinate relaxation method for solving the generalized eigenvalue problem for large real-symmetric matrices. L.M. Cheung and D.M. Bishop

5 297 The computer code SEURBNUK-2 for fast reactor containment safety studies. I.G. Cameron, B.C. Hankin, A.G.P. Warham, A. Benuzzi and A. Yerkess

5 311 Application of the HLISP program for the irreducible representation matrix of the permutation groups and the partition function of the dilute linear Heisenberg chain. S. Katsura, M. Sampei, M. Suzuki and Y. Abe

5 317 Limits of validity for the Vavilov energy straggling calculation. N. Jarmie, M.S. Pindzola and H. Bichsel

5 430 Book review. K.W. Morton

**U·M·I**

**INCORRECT VOLUME NUMBER. SHOULD READ  
VOLUME 13.**

## COMPUTER PROGRAMS IN PHYSICS

*Issue Page*

1 17 The Bessel functions J0 and J1 of complex argument. R.W.B. Ardill and K.J.M. Moriarty

1 25 A program to calculate coronal emission line strengths. P.L. Dufton

1 39 Radio recombination lines from H+ regions and cold interstellar clouds: computation of the t factors. M. Brocklehurst and M. Salem

1 49 A program for the study of short range order of binary alloys. G.L. Bleris and Ch. Polatoglou

1 57 Multistate molecular treatment of atomic collisions in the impact parameter approximation. I. Calculation of differential cross-sections from the transition amplitudes for the straight line case. R.D. Piacentini and A. Salin

1 63 A computer program for calculation of the Coriolis effect in odd-A nuclei. R. Kaczarowski

1 71 Erratum notice. A multiconfiguration relativistic Dirac-Fock program. J.P. Desclaux

1 72 Erratum notice. Calculation of Canterbury approximants. P.R. Graves-Morris and D.E. Rober

2 101 A portable text editor. C. Day

2 107 A Fortran program to simulate quadrupole-distorted NMR powder patterns. E.D. von Meerwa

2 117 Linear and nonlinear ideal MHD codes - V103. H.R. Hicks and J.W. Wooten

2 137 Erratum notice. A program for computing level-crossings and the Back-Goudsmit effect. P. Violino

2 141 Erratum. PIPIT: a momentum space optical potential code for pions. R.A. Eisenstein and F. Tabakin

3 167 Computer simulation of correlated self-diffusion via randomly migrating vacancies in cubic crystals. D. Wolf and K. Differt

3 183 Determination of correlation factor and NMR diffusion parameters from the computer-simulated random motion of vacancies in cubic crystals. D. Wolf, K. Differt and H. Mehrer

3 193 A new version of AAKL (the matrix elements of spin-orbit interaction) adapted to spectroscopic notation. K.M.S. Saxena

3 203 Numerical solution of Kramers-Kronig transforms by a Fourier method. S.J. Collocott

3 207 ELLIPS: a Fortran simulation of a polarization-modulation ellipsometer. V.M. Bermudez

3 225 Erratum notice. Calculation of crystal potentials. D.A. Papaconstantopoulos and W.R. Slaugh

3 231 Erratum notice. A new version of AAKF (reduced tensor matrix elements) adapted to spectroscopic notation. C.F. Fischer and K.M.S. Saxena

3 231 Erratum notice. A program to evaluate the reduced matrix elements of summations of one-particle tensor operators. W.D. Robb

4 251 Classical collisions of protons with hydrogen atoms. D. Banks, K.S. Barnes, P.E. Hughes, I.C. Percival, D. Richards, N.A. Valentine and J.McB. Wilson

4 271 FURI: a Fortran function writer. A.J. Barnard

4 281 Counting a small number of radioactive atoms. A.M. Aurela

4 289 Adaptation of the new version of the reduced tensor matrix elements (AAKP) program: inclusion of the evaluation of matrix elements of tensor products. K.M.S. Saxena

**COMPUTER PROGRAMS IN PHYSICS (cont.)****Issue Page**

4 295 Erratum. Multistate molecular treatment of atomic collisions in the impact parameter approximation. II. Calculation of differential cross-sections from the transition amplitudes for the straight line case. R.D. Piacentini and A. Salin

5 323 FIFPC: a fast ion Fokker-Planck code. R.H. Fowler, J. Smith and J.A. Rome

5 341 Calculation of the first derivatives of Madelung constants with respect to cell lengths. H.D.B. Jenkins and K.F. Pratt

5 349 A linear accelerator cavity code based on the finite element method. A. Konrad

5 363 The computation of steady state arcs in nozzle flow. M.T.C. Fang, S.K. Chan and R.D. Wright

5 371 DBLCON: a version of POSITRONFIT with non-Gaussian prompt for analysing positron lifetime spectra. W.K. Warburton

5 381 Computation of phonon spectrum from the cold neutron incoherent inelastic scattering by a polycrystal. T.D. Sokolovskij and L.A. Rogoschenko

5 389 UPEAK: spectro-oriented routine for mixture decomposition. V.B. Zlokazov

5 399 Monte Carlo integration program for the n-particle relativistic phase space integral in invariant variables. R.A. Morrow

5 411 Simulation of thermally stimulated dipolar processes in dielectrics. A. Linkens, J. Vanderschueren, P. Parot and J. Gasiot

5 421 A Fortran program to collect histograms over microscopic scalar interactions. E.D. von Mee

5 429 Erratum notice. A general program to calculate angular momentum coefficients in relativistic atomic structure. I.P. Grant